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# Corrigendum: The FMRFamide-like peptide family in nematodes

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**Keywords:** FMRFamide-like peptides (FLPs)<sub>1</sub>, nematodes<sub>2</sub>, *C. elegans*<sub>3</sub>, neuropeptide<sub>4</sub>, G protein-coupled receptor<sub>5</sub>, feeding behavior<sub>6</sub>, reproduction<sub>7</sub>.

17 In Figure 1, NLP-1 neuropeptides (not NLP-11 as indicated in Figure 1) are released from AWC olfactory cells  
18 and activate the NPR-11 receptor. The AWC-released neuropeptide NLP-1 is stated correctly in the figure  
19 legend.

20 In Table 1, the activity of neuropeptides on *C. elegans* G protein-coupled receptors is indicated by an EC50  
21 range or by an activity threshold when EC50 values could not be calculated. The activity thresholds are  
22 indicated in italic in the corrected Table 1 below.

23 **Table 1. Neuropeptide genes encoding FLPs in nematodes.**

<i>flp</i> gene <sup>a</sup>	Species <sup>b</sup>	C-terminal peptide consensus <sup>c</sup>	<i>C. elegans</i> FLPs <sup>d</sup>	<i>C. elegans flp</i> expression <sup>e</sup>	<i>C. elegans</i> receptor interaction (EC <sub>50</sub> range or activity threshold) <sup>f</sup>	References
<i>flp-1</i>	<i>A. caninum</i> , <i>A. ceylanicum</i> , <i>A. suum</i> , <i>B. malayi</i> , <i>B. xylophilus</i> , <i>C. elegans</i> , <i>C. vulgaris</i> , <i>D. immitis</i> , <i>G. pallida</i> , <i>G. rostochiensis</i> , <i>H. concortus</i> , <i>H. schachtii</i> , <i>L. loa</i> , <i>M. arenaria</i> , <i>M. chitwoodi</i> , <i>M. hapla</i> , <i>M. incognita</i> , <i>M. javanica</i> , <i>M. paranaensis</i> , <i>N. brasiliensis</i> , <i>N. americanus</i> , <i>O. onchengi</i> , <i>O. volvulus</i> , <i>P. redivivus</i> , <i>P. trichosuri</i> , <i>S. ratti</i> , <i>S. stercoralis</i> , <i>T. muris</i> , <i>T. spiralis</i> , <i>W. bancrofti</i>	-[P/N/Q/A/ ] [N/T/D/S/K][F/Y]LRFa	<b>SADPNFLRFa</b> <b>SQPNFLRFa</b> <b>ASGDPNFLRFa</b> <b>SDPNFLRFa</b> <b>AAADPNFLRFa</b> (K)PNFLRFa AGSDPNGLRFa *(K)PNFMRYa	AIA, AIY, AVA, AVE, AVK, RIG, RMG, M5	NPR-22 (100 nM) NPR-4 (~ 0.4 – 9 μM) NPR-11 (~ 1 – 8 μM)	Rosoff et al., 1992, 1993; Nelson et al., 1998a; Rogers et al., 2001; Kim and Li, 2004; Husson et al., 2005, 2006; Mertens et al., 2006; Schinkmann and Li, 1994; McVeigh et al., 2005; Kimber et al., 2001, 2002; Kimber and Fleming, 2005; Lowery et al., 2003; Geary et al., 1992; Jarecki et al., 2012; Kikuchi et al., 2011; Abad et al., 2008; McCoy et al., 2014
<i>flp-2</i>	<i>A. caninum</i> , <i>A. suum</i> , <i>B. xylophilus</i> , <i>C. elegans</i> , <i>G. pallida</i> , <i>H. concortus</i> , <i>M. chitwoodi</i> , <i>M. hapla</i> , <i>M. incognita</i> , <i>M. javanica</i> , <i>N. americanus</i> , <i>N. brasiliensis</i> , <i>O. ostertagi</i> , <i>S. ratti</i>	[L/F/V/S/Q][P/R/M][G/R]EP[I/L]RFa	LRGEPIRFa <b>SPREPIRFa</b>	AIA, RID, PVW, I5, MC (ASI, M4, head muscles, an extra pair of cells in the head	FRPR-18 (~ 50 nM)	Nelson et al., 1998a; Kim and Li, 2004; McVeigh et al., 2005; Mertens et al., 2005; Larsen et al., 2013; Kikuchi et al., 2011; McCoy et al., 2014
<i>flp-3</i>	<i>A. suum</i> , <i>B. malayi</i> , <i>B. xylophilus</i> , <i>C. elegans</i> , <i>D. immitis</i> , <i>G. pallida</i> , <i>H. glycines</i> , <i>L. loa</i> , <i>M. arenaria</i> , <i>M. chitwoodi</i> , <i>M. hapla</i> , <i>M. incognita</i> , <i>O. volvulus</i> , <i>O. onchengi</i> , <i>S. ratti</i> , <i>W. bancrofti</i>	-[S/A/E/T/N][P/L][L/F/P]GTMRFa	SPLGTMRFa <b>TPLGTMRFa</b> <b>SAEPFGTMRFa</b> <b>NPENDTPFGTMRFa</b> <b>ASEDALFGTMRFa</b> EDGNAPFGTMRFa <b>EAEPLGTMRFa</b> <b>SADDSAPFGTMRFa</b> NPLGTMRFa	IL1, PQR, SP, CP9	NPR-10 (~ 60 – 300 nM) NPR-4 (≥10 μM)	Nelson et al., 1998a; Rogers et al., 2001; Kim and Li, 2004; Husson et al., 2005; McVeigh et al., 2005; Husson et al., 2007a; Lowery et al., 2003; Li and Kim, 2010; Greenwood et al., 2005; Kikuchi et al., 2011; Abad et al., 2008; McCoy et al., 2014
<i>flp-4</i>	<i>A. caninum</i> , <i>A. ceylanicum</i> , <i>A. suum</i> , <i>B. malayi</i> , <i>B. xylophilus</i> , <i>C. elegans</i> , <i>D. immitis</i> , <i>H. glycines</i> , <i>N. brasiliensis</i> , <i>O. ochengi</i> , <i>O. volvulus</i> , <i>W. bancrofti</i>	-[A/T/G][Q/N/S/K][P/S][T/S]FIRFa	PTFIRFa ASPSFIRFa	ADL, ASEL, AVM, AWC, FLP, PHA, PHB, PVD, I5, I6,	NPR-4 (~5 – 80 nM)	Nelson et al., 1998a; Kim and Li, 2004; McVeigh et al., 2005; Lowery et al., 2003; Li and Kim, 2010; Jarecki et al., 2011; Kikuchi et al., 2011;

				NSM		McCoy et al., 2014
<i>flp-5</i>	<i>A. caninum</i> , <i>A. suum</i> , <i>B. xylophilus</i> , <i>C. elegans</i> , <i>G. pallida</i> , <i>G. rostochiensis</i> , <i>H. concortus</i> , <i>H. glycines</i> , <i>M. arenaria</i> , <i>M. hapla</i> , <i>M. javanica</i> , <i>M. incognita</i> , <i>N. brasiliensis</i> , <i>N. americanus</i> , <i>P. penetrans</i> , <i>S. ratti</i>	- [G/A/N/K][A/Q/P]KFIRFa	APKFIRFa AGAKFIRFa <b>GAKFIRFa</b>	ASE, PVT, RMG, I4, M4, pharyngeal muscle, amphidial neuron (PB, I2), rays 1,5,7, HOB, P8	NPR-11 (~ 1 – 8 $\mu$ M)	Nelson et al., 1998a; Rogers et al., 2001; Lowery et al., 2003; Kim and Li, 2004; Husson et al., 2005; McVeigh et al., 2005; Li and Kim, 2010; Kikuchi et al., 2011; Abad et al., 2008; McCoy et al., 2014
<i>flp-6</i>	<i>A. caninum</i> , <i>A. ceylanicum</i> , <i>A. suum</i> , <i>B. malayi</i> , <i>B. xylophilus</i> , <i>C. elegans</i> , <i>D. immitis</i> , <i>G. pallida</i> , <i>G. rostochiensis</i> , <i>H. concortus</i> , <i>H. glycines</i> , <i>L. loa</i> , <i>M. chitwoodi</i> , <i>M. hapla</i> , <i>M. incognita</i> , <i>M. paranaensis</i> , <i>N. brasiliensis</i> , <i>N. americanus</i> , <i>O. ochengi</i> , <i>O. ostertagi</i> , <i>O. volvulus</i> , <i>P. redivivus</i> , <i>S. ratti</i> , <i>S. stercoralis</i> , <i>T. circumcincta</i> , <i>W. bancrofti</i>	KS[A/S]YMRFa	<b>KSAYMRFa</b> (6x) *pQQDSEVEREMM	ASE, AFD, ADF, ASG, PVT, I1 (one or two pairs of head cells), rays 2, 5, 6, 7		Nelson et al., 1998a; Rogers et al., 2001; Kim and Li, 2004; Husson et al., 2005; McVeigh et al., 2005; Li and Kim, 2010; Marks et al., 1998; Maule et al., 1994a; Jarecki et al., 2010; Kikuchi et al., 2011; Abad et al., 2008; McCoy et al., 2014
<i>flp-7</i>	<i>A. caninum</i> , <i>A. suum</i> , <i>B. xylophilus</i> , <i>C. elegans</i> , <i>G. pallida</i> , <i>G. rostochiensis</i> , <i>H. concortus</i> , <i>H. glycines</i> , <i>M. hapla</i> , <i>M. incognita</i> , <i>M. javanica</i> , <i>N. brasiliensis</i> , <i>O. ostertagi</i> , <i>S. ratti</i> , <i>S. stercoralis</i>	[A/T/S]P[F/L/M/I][D/Q/A/E]R[S/A/T] [S/A/T/K][M/L/I][A/V/I]RFa	<b>TPMQRSSMVRFa</b> (2x) <b>SPMQRSSMVRFa</b> (3x) SPMERSAMVRFa SPMDRSKMVRFa	ALA, AVG, PHB, PDA, PVW, RIC, SAA (RMDV/ SMDV, PHA)	NPR-22 (0.025 – 5 $\mu$ M) FRPR-3 (> 1 $\mu$ M)	Nelson et al., 1998a; Rogers et al., 2001; Husson et al., 2006; Mertens et al., 2006; McVeigh et al., 2005; Li and Kim, 2010; Mertens et al., 2004a; Kikuchi et al., 2011; Abad et al., 2008; McCoy et al., 2014
<i>flp-8</i>	<i>A. ceylanicum</i> , <i>A. suum</i> , <i>B. malayi</i> , <i>B. xylophilus</i> , <i>C. elegans</i> , <i>D. immitis</i> , <i>H. concortus</i> , <i>L. loa</i> , <i>N. americanus</i> , <i>N. brasiliensis</i> , <i>O. ochengi</i> , <i>O. volvulus</i> , <i>S. ratti</i> , <i>T. muris</i> , <i>T. spiralis</i> , <i>W. bancrofti</i> , <i>X. index</i>	KNEF[I/V]RFa	<b>KNEFIRFa</b> (3x)	AUA, PVM, URX (RMG,ADA, an extra pair of cells in the head), CP9		Nelson et al., 1998a; Rogers et al., 2001; Kim and Li, 2004; McVeigh et al., 2005; Li and Kim, 2010; Davis and Stretton, 1996; Cowden et al., 1989; Yew et al., 2005; Kikuchi et al., 2011; McCoy et al., 2014
<i>flp-9</i>	<i>A. caninum</i> , <i>A. ceylanicum</i> , <i>C. elegans</i> , <i>H. concortus</i> , <i>N. americanus</i> , <i>N. brasiliensis</i> , <i>O. ostertagi</i>	KPSFVRFa	<b>KPSFVRFa</b>		NPR-22 (5 $\mu$ M)	Nelson et al., 1998a; Husson et al., 2005, 2006; Mertens et al., 2006; McVeigh et al., 2005; Marks et al., 1999;

						McCoy <i>et al.</i> , 2014
<i>flp-10</i>	<i>A. ceylanicum</i> , <i>C. elegans</i> , <i>X. index</i>	-[A/T/M][R/A][S/G][G/S/K]Y[I/L]RFa	QPKARSGYIRFa	AIM, ASI, AUA, BAG, BDU, DVB, PQR, PVR, URX, vulD	EGL-6 (11 nM)	Nelson <i>et al.</i> , 1998a; Kim and Li, 2004; McVeigh <i>et al.</i> , 2005; Ringstad and Horvitz, 2008
<i>flp-11</i>	<i>A. suum</i> , <i>A. caninum</i> , <i>A. ceylanicum</i> , <i>B. malayi</i> , <i>B. xylophilus</i> , <i>C. elegans</i> , <i>D. immitis</i> , <i>G. pallida</i> , <i>G. rostochiensis</i> , <i>H. concortus</i> , <i>H. glycines</i> , <i>L. loa</i> , <i>M. hapla</i> , <i>M. incognita</i> , <i>M. paranaensis</i> , <i>N. americanus</i> , <i>N. brasiliensis</i> , <i>O. ochengi</i> , <i>O. ostertagi</i> , <i>O. volvulus</i> , <i>P. penetrans</i> , <i>R. similis</i> , <i>S. ratti</i> , <i>S. stercoralis</i> , <i>T. circumcincta</i> , <i>W. bancrofti</i>	- M/I/G/A/S][R/A][N/P][A/S/Q/E][P/L] VRFa	<b>AMRNALVRFa</b> <b>ASGGMRNALVRFa</b> <b>NGAPQPFVRFa</b> <b>*SPLDEEDFAPESPLQa</b>	AUA, BAG, VD, DA, DD, DVB, LUA, PHC, PVC, SAB, URX, uvl, head muscle (socket cells), ray 4	NPR-22 (0.75 – 2.5 $\mu$ M) FRPR-3 (~ 1 $\mu$ M) NPR-4 ( $\geq$ 10 $\mu$ M)	Nelson <i>et al.</i> , 1998a; Kim and Li, 2004; Husson <i>et al.</i> , 2005, 2006; Mertens <i>et al.</i> , 2006; McVeigh <i>et al.</i> , 2005; Lowery <i>et al.</i> , 2003; Li and Kim, 2010; Mertens <i>et al.</i> , 2004a; Yew <i>et al.</i> , 2005, 2003, 2007; Kikuchi <i>et al.</i> , 2011; McCoy <i>et al.</i> , 2014
<i>flp-12</i>	<i>A. caninum</i> , <i>A. suum</i> , <i>B. malayi</i> , <i>B. xylophilus</i> , <i>C. elegans</i> , <i>D. immitis</i> , <i>G. pallida</i> , <i>G. rostochiensis</i> , <i>H. concortus</i> , <i>H. glycines</i> , <i>L. loa</i> , <i>M. arenaria</i> , <i>M. chitwoodi</i> , <i>M. hapla</i> , <i>M. incognita</i> , <i>M. javanica</i> , <i>M. minor</i> , <i>M. paranaensis</i> , <i>N. americanus</i> , <i>N. brasiliensis</i> , <i>O. ochengi</i> , <i>O. volvulus</i> , <i>S. ratti</i> , <i>W. bancrofti</i>	(K)[R/K/N]NKFEFIRFa	RNKFEFIRFa	AVA, AVJ, AVH, BAG, PDA, PVR, SAA, SDQ, SMB, (BDU), rays 1, 4, 5, 7, CP9		Nelson <i>et al.</i> , 1998a; Kim and Li, 2004; McVeigh <i>et al.</i> , 2005; Kimber <i>et al.</i> , 2001, 2002; Kimber and Fleming, 2005; Davis and Stretton, 1996; Yew <i>et al.</i> , 2005; Johnston <i>et al.</i> , 2010; Kikuchi <i>et al.</i> , 2011; Abad <i>et al.</i> , 2008; McCoy <i>et al.</i> , 2014
<i>flp-13</i>	<i>A. caninum</i> , <i>A. ceylanicum</i> , <i>A. suum</i> , <i>B. xylophilus</i> , <i>C. elegans</i> , <i>D. immitis</i> , <i>G. pallida</i> , <i>G. rostochiensis</i> , <i>H. concortus</i> , <i>H. glycines</i> , <i>L. loa</i> , <i>M. chitwoodi</i> , <i>M. hapla</i> , <i>M. incognita</i> , <i>M. javanica</i> , <i>N. americanus</i> , <i>N. brasiliensis</i> , <i>O. ochengi</i> , <i>O. ostertagi</i> , <i>O. volvulus</i> , <i>P. penetrans</i> , <i>P. pacificus</i> , <i>S. ratti</i> , <i>S. stercoralis</i> , <i>W. bancrofti</i>	-P[F/L/I][I/L/M/V]RFa	<b>AMDSPFIRFa</b> <b>AADGAPFIRFa</b> <b>APEASPFIRFa</b> (2x) AADGAPLIRFa <b>ASPSAPFIRFa</b> <b>SPSAVPIRFa</b> <b>SAAAPLIRFa</b> ASSAPFIRFa	ASE, ASG, ASK, BAG, DD, I5, M3, M5 (an extra pair of cells in the head), VSP	NPR-22 (2.5 – 5 $\mu$ M)	Nelson <i>et al.</i> , 1998a; Kim and Li, 2004; Husson <i>et al.</i> , 2005, 2006; Mertens <i>et al.</i> , 2006; Li and Kim, 2010; Davis and Stretton, 1996; Marks <i>et al.</i> , 1997, 2001; Jarecki <i>et al.</i> , 2010; Kikuchi <i>et al.</i> , 2011; Abad <i>et al.</i> , 2008; McCoy <i>et al.</i> , 2014
<i>flp-14</i>	<i>A. caninum</i> , <i>A. ceylanicum</i> , <i>A. suum</i> , <i>B. malayi</i> , <i>B. xylophilus</i> , <i>C. elegans</i> , <i>D. immitis</i> , <i>G. pallida</i> ,	KH[E/D][Y/F][L/V/I]RFa	<b>KHEYLRFa</b> (4x)		NPR-4 ( $\geq$ 10 $\mu$ M) NPR-11 (~1 – 8 $\mu$ M)	Rogers <i>et al.</i> , 2001; Husson <i>et al.</i> , 2006; McVeigh <i>et al.</i> , 2005; Kimber <i>et al.</i> , 2001,

	<i>G. rostockiensis</i> , <i>H. concortus</i> , <i>L. loa</i> , <i>M. arenaria</i> , <i>M. chitwoodi</i> , <i>M. hapla</i> , <i>M. incognita</i> , <i>M. javanica</i> , <i>M. paranaensis</i> , <i>N. americanus</i> , <i>N. brasiliensis</i> , <i>O. ochengi</i> , <i>O. volvulus</i> , <i>P. redivivus</i> , <i>P. trichosuri</i> , <i>P. penetrans</i> , <i>P. penetrans</i> , <i>R. similis</i> , <i>S. ratti</i> , <i>S. stercoralis</i> , <i>T. circumcincta</i> , <i>T. muris</i> , <i>T. spiralis</i> , <i>W. bancrofti</i>					2002; Kimber and Fleming, 2005; Lowery et al., 2003; Davis and Stretton, 1996; Yew et al., 2005; Johnston et al., 2010; Li et al., 1999; Cowden and Stretton, 1993; Maule et al., 1994b; Jarecki et al., 2010; Kikuchi et al., 2011; Abad et al., 2008; McCoy et al., 2014
<i>flp-15</i>	<i>A. ceylanicum</i> , <i>A. suum</i> , <i>C. elegans</i> , <i>H. concortus</i> , <i>N. americanus</i> , <i>N. brasiliensis</i> , <i>O. ostertagi</i> , <i>T. circumcincta</i>	[R/D/G/A][G/V]P[T/S/Q]GPLRFa	<b>GGPQGPLRFa</b> <b>RGPSGPLRFa</b>	PHA, I2, socket/sheath cells (pharyngeal muscle, several cells in the head)	NPR-3 (~ 100 – 600 nM) NPR-4 (≥ 10 μM)	Kim and Li, 2004; Mertens et al., 2006; McVeigh et al., 2005; Lowery et al., 2003; Li and Kim, 2010; Li et al., 1999; Kubiak et al., 2003b; McCoy et al., 2014
<i>flp-16</i>	<i>A. caninum</i> , <i>A. ceylanicum</i> , <i>A. suum</i> , <i>B. malayi</i> , <i>B. xylophilus</i> , <i>C. elegans</i> , <i>D. immitis</i> , <i>G. pallida</i> , <i>G. rostockiensis</i> , <i>H. concortus</i> , <i>H. glycines</i> , <i>L. loa</i> , <i>M. hapla</i> , <i>M. incognita</i> , <i>N. americanus</i> , <i>N. brasiliensis</i> , <i>O. ochengi</i> , <i>O. volvulus</i> , <i>O. ostertagi</i> , <i>P. trichosuri</i> , <i>P. penetrans</i> , <i>P. vulnus</i> , <i>R. similis</i> , <i>S. ratti</i> , <i>W. bancrofti</i>	[A/G]QTFVRFa	<b>AQTFVRFa</b> (2x) <b>GQTFVRFa</b>			McVeigh et al., 2005; Li and Kim, 2010; Kikuchi et al., 2011; Abad et al., 2008; McCoy et al., 2014
<i>flp-17</i>	<i>A. caninum</i> , <i>A. suum</i> , <i>B. xylophilus</i> , <i>C. elegans</i> , <i>H. contortus</i> , <i>N. americanus</i> , <i>N. brasiliensis</i> , <i>O. ostertagi</i> , <i>S. ratti</i> , <i>S. stercoralis</i> , <i>X. index</i>	KS [A/S/Q][F/Y/L][V/I]RFa	KSAFVRFa (2x) KSQYIRFa	BAG, M5 (an extra pair of cells in the head), rays 1, 5, 7	EGL-6 (1 – 28 nM)	Kim and Li, 2004; McVeigh et al., 2005; Li and Kim, 2010; Li et al., 1999; Jarecki et al., 2011; Kikuchi et al., 2011; McCoy et al., 2014; Ringstad and Horvitz, 2008
<i>flp-18</i>	<i>A. caninum</i> , <i>A. ceylanicum</i> , <i>A. suum</i> , <i>B. xylophilus</i> , <i>C. elegans</i> , <i>D. immitis</i> , <i>G. pallida</i> , <i>G. rostockiensis</i> , <i>H. concortus</i> , <i>L. loa</i> , <i>M. chitwoodi</i> , <i>M. hapla</i> , <i>M. incognita</i> , <i>M. javanica</i> , <i>N. americanus</i> , <i>N. brasiliensis</i> , <i>O.</i>	-[P/Q/A][G/Q/D/A] [V/M/F/L][V/M/F/L]RFa	(DFD)GAMPGVLRFa EMPGVLRFa (SYFDEKK)SVPGVLRFa (3x) EIPGVLRFa SEVPGVLRFa DVPGVLRFa	AVA, AIY, RIG, RIM, M2 (M3, two extra pairs of cells in the head), rays 2, 6	NPR-4 (~ 5 – 80 nM) NPR-10 (~ 60 nM – 4.6 μM) NPR-1 ((-32.2) – (-6.8))** NPR-5a (~ 20 – 70 μM) NPR-5b (~ 30 – 800 nM) NPR-11 (~ 80 nM – 8 μM)	Husson et al., 2005, 2006; McVeigh et al., 2005; Kimber et al., 2001; Kimber and Fleming, 2005; Lowery et al., 2003; Li and Kim, 2010; Yew et al., 2005; Rogers et al., 2003; Edison et

	<i>ochengi</i> , <i>O. ostertagi</i> , <i>O. volvulus</i> , <i>P. pacificus</i> , <i>S. ratti</i> , <i>S. stercoralis</i> , <i>T. muris</i> , <i>T. spiralis</i> , <i>W. bancrofti</i>					al., 1997; Cohen et al., 2009; Kikuchi et al., 2011; Abad et al., 2008; McCoy et al., 2014
<i>flp-19</i>	<i>A. caninum</i> , <i>A. suum</i> , <i>B. malayi</i> , <i>B. xylophilus</i> , <i>C. elegans</i> , <i>D. immitis</i> , <i>G. pallida</i> , <i>H. concortus</i> , <i>H. glycines</i> , <i>L. loa</i> , <i>M. hapla</i> , <i>M. incognita</i> , <i>N. americanus</i> , <i>N. brasiliensis</i> , <i>O. ochengi</i> , <i>O. volvulus</i> , <i>P. penetrans</i> , <i>S. ratti</i> , <i>T. circumcincta</i> , <i>W. bancrofti</i>	- W[A/S][N/S/T][Q/K/S][V/L]RFa	<b>WANQVRFa</b> <b>ASWASSVRFa</b>	AIN, AWA, BAG, HSN, URX (an extra pair of cells in the tail), rays 5, 7, 9, CEM		Rogers et al., 2001; Kim and Li, 2004; Husson et al., 2005, 2006; McVeigh et al., 2005; Li and Kim, 2010; Li et al., 1999; Jarecki et al., 2011; Kikuchi et al., 2011; Abad et al., 2008; McCoy et al., 2014
<i>flp-20</i>	<i>A. suum</i> , <i>A. caninum</i> , <i>B. xylophilus</i> , <i>C. elegans</i> , <i>G. pallida</i> , <i>H. concortus</i> , <i>M. hapla</i> , <i>M. incognita</i> , <i>N. brasiliensis</i> , <i>P. trichosuri</i> , <i>S. ratti</i>	[A/V]MMRFa	AMMRFa (2x)	ALM, ASEL, AVM, LUA, PLM, PVC, PVM, PVR, RIB, AIB, (PV T)		Kim and Li, 2004; McVeigh et al., 2005; Li et al., 1999; Kikuchi et al., 2011; Abad et al., 2008; McCoy et al., 2014
<i>flp-21</i>	<i>A. caninum</i> , <i>A. suum</i> , <i>B. malayi</i> , <i>B. xylophilus</i> , <i>C. elegans</i> , <i>D. immitis</i> , <i>G. pallida</i> , <i>H. concortus</i> , <i>L. loa</i> , <i>M. hapla</i> , <i>M. incognita</i> , <i>N. americanus</i> , <i>N. brasiliensis</i> , <i>O. ochengi</i> , <i>O. ostertagi</i> , <i>O. volvulus</i> , <i>P. penetrans</i> , <i>P. pacificus</i> , <i>R. similis</i> , <i>S. ratti</i> , <i>S. stercoralis</i> , <i>T. circumcincta</i> , <i>W. bancrofti</i>	- [G/A/S/L][L/A]GPRPLRFa	GLGPRPLRFa	ADL, ASI, ASEASH, ASJ, ASK, FLP, URA, MC, M4, M2, SP, DVF, P6, P7, P9	NPR-1 (~ 2.5 – 100 nM) NPR-11 (~ 1 – 10 nM) NPR-5a (~ 0.6 – 5 μM) NPR-5b (~ 200 – 1500 nM)	McVeigh et al., 2005; Lowery et al., 2003; Rogers et al., 2003; Cohen et al., 2009; Kikuchi et al., 2011; Abad et al., 2008; McCoy et al., 2014; Kubiak et al., 2003a; Greenwood et al., 2005
<i>flp-22</i>	<i>A. caninum</i> , <i>A. ceylanicum</i> , <i>A. suum</i> , <i>B. malayi</i> , <i>B. xylophilus</i> , <i>C. elegans</i> , <i>D. immitis</i> , <i>G. pallida</i> , <i>G. rostockiensis</i> , <i>H. concortus</i> , <i>H. glycines</i> , <i>L. loa</i> , <i>M. hapla</i> , <i>M. incognita</i> , <i>N. brasiliensis</i> , <i>O. ochengi</i> , <i>O. ostertagi</i> , <i>O. volvulus</i> , <i>P. trichosuri</i> , <i>P. penetrans</i> , <i>P. pacificus</i> , <i>R. similis</i> , <i>S. ratti</i> , <i>S. stercoralis</i> , <i>T. circumcincta</i> , <i>W. bancrofti</i>	- [P/E/A/T/S][P/Q/G/E/N/S][S/G/V/A] KWMRFa	<b>SPSAKWMRFa</b> (3x)	AIM, ASG, AVA, AVG, AVL, CEP, PVD, PVW, RIC, AIZ, RIV, SMD, URA, uvl, 6 out of 9 CP	NPR-22 (1 μM)	Husson et al., 2005, 2006; Mertens et al., 2006; McVeigh et al., 2005; Kikuchi et al., 2011; Abad et al., 2008; McCoy et al., 2014
<i>flp-23</i>	<i>B. malayi</i> , <i>C. elegans</i> , <i>D. immitis</i> , <i>L. loa</i> , <i>O. ochengi</i> , <i>O. volvulus</i> , <i>T.</i>	- [V/I/T][V/D/K][G/D/F][Q/G/F]QDFLRFa	VVGQQDFLRFa TKFQDFLRFa			Kim and Li, 2004; McVeigh et al., 2005; Li and Kim,



	<i>circumcincta</i> , <i>W. bancrofti</i>					2010; McCoy <i>et al.</i> , 2014
<i>flp-24</i>	<i>A. caninum</i> , <i>A. ceylanicum</i> , <i>A. suum</i> , <i>B. malayi</i> , <i>C. elegans</i> , <i>D. immitis</i> , <i>H. concortus</i> , <i>L. loa</i> , <i>N. americanus</i> , <i>O. ostertagi</i> , <i>O. ochengi</i> , <i>O. volvulus</i> , <i>S. ratti</i> , <i>W. bancrofti</i>	VP[S/N][A/P][G/A]DMM[V/I]RFa	<b>VPSAGDMMVRFa</b>			Kim and Li, 2004; McVeigh <i>et al.</i> , 2005; Li and Kim, 2010; Jarecki <i>et al.</i> , 2010; McCoy <i>et al.</i> , 2014
<i>flp-25</i>	<i>A. caninum</i> , <i>A. suum</i> , <i>B. malayi</i> , <i>C. elegans</i> , <i>D. immitis</i> , <i>G. pallida</i> , <i>G. rostochiensis</i> , <i>H. concortus</i> , <i>L. loa</i> , <i>M. chitwoodi</i> , <i>M. hapla</i> , <i>M. incognita</i> , <i>M. javanica</i> , <i>N. americanus</i> , <i>N. brasiliensis</i> , <i>O. ochengi</i> , <i>O. volvulus</i> , <i>S. ratti</i> , <i>S. stercoralis</i> , <i>W. bancrofti</i>	- [D/A/S/N/T]YD[Y/F][V/I]RFa	DYDFVRFa <b>ASYDYIRFa</b>	ASE		Husson <i>et al.</i> , 2006; McVeigh <i>et al.</i> , 2005; Li and Kim, 2010; Abad <i>et al.</i> , 2008; McCoy <i>et al.</i> , 2014; Etchberger <i>et al.</i> , 2007
<i>flp-26</i>	<i>A. caninum</i> , <i>A. ceylanicum</i> , <i>A. suum</i> , <i>C. elegans</i> , <i>N. americanus</i>	- [G/S][G/E][G/E/P][L/M/I][A/E]F[H/S/N] [P/A][N/D][D/M]L[A/S/T]LRFa	<b>(E)FNADDLTLRFa</b> <b>GGAGEPLAFSPDMLSLRFa</b> <b>*FRLPFQFFGANEDFNSGLT</b> <b>*NYYESKPY</b>			Husson <i>et al.</i> , 2006; McVeigh <i>et al.</i> , 2005; Li and Kim, 2010; McCoy <i>et al.</i> , 2014
<i>flp-27</i>	<i>A. caninum</i> , <i>C. elegans</i> , <i>H. glycines</i> , <i>M. chitwoodi</i> , <i>M. hapla</i> , <i>M. incognita</i> , <i>M. javanica</i> , <i>M. paranaensis</i> , <i>N. americanus</i> , <i>R. similis</i>	[G/T/S/A][K/L/M]G[G/S]RMRFa	GLGGRMRFa <b>*pQPIDEERPIFME</b>			Husson <i>et al.</i> , 2006; McVeigh <i>et al.</i> , 2005; Abad <i>et al.</i> , 2008; McCoy <i>et al.</i> , 2014; Li and Kim, 2010
<i>flp-28</i>	<i>A. suum</i> , <i>A. caninum</i> , <i>C. elegans</i> , <i>H. concortus</i> , <i>N. brasiliensis</i> , <i>O. ostertagi</i> , <i>P. penetrans</i> , <i>S. ratti</i>	- [V/I][L/F]MRFa	VLMRFa <b>APNRVLMRFa</b>			Husson <i>et al.</i> , 2006; McVeigh <i>et al.</i> , 2005; McCoy <i>et al.</i> , 2014
<i>flp-31</i>	<i>B. xylophilus</i> , <i>G. pallida</i> , <i>M. chitwoodi</i> , <i>M. hapla</i> , <i>M. incognita</i> , <i>P. penetrans</i>	LYRPRGPPRFa				Abad <i>et al.</i> , 2008; McCoy <i>et al.</i> , 2014; McVeigh <i>et al.</i> , 2005
<i>flp-32</i>	<i>A. caninum</i> , <i>B. xylophilus</i> , <i>C. elegans</i> , <i>G. pallida</i> , <i>H. concortus</i> , <i>M. hapla</i> , <i>M. incognita</i> , <i>N. brasiliensis</i> , <i>S. ratti</i>		AMRNSLVRFa			McVeigh <i>et al.</i> , 2005; Li and Kim, 2010; Kikuchi <i>et al.</i> , 2011; Abad <i>et al.</i> , 2008; McCoy <i>et al.</i> , 2014
<i>flp-33</i>	<i>A. suum</i> , <i>A. caninum</i> , <i>B. xylophilus</i> , <i>C. elegans</i> , <i>H. concortus</i> , <i>N. brasiliensis</i>		<b>APLEGFEDMSGFLRTIDGIQ</b> <b>KPRFa</b>			Husson <i>et al.</i> , 2007b; Li and Kim, 2010; Kikuchi <i>et al.</i> , 2011; McCoy <i>et al.</i> , 2014
<i>flp-34</i>	<i>A. suum</i> , <i>A. caninum</i> , <i>B. malayi</i> , <i>B. xylophilus</i> , <i>C. elegans</i> , <i>D. immitis</i> , <i>G. pallida</i> , <i>H. concortus</i> , <i>M. hapla</i> , <i>M. incognita</i> , <i>L. loa</i> , <i>N.</i>		ALNRDSLVA SLNNAERLRFa <b>*ADISTFASAINNAGRLRYa</b>			Li and Kim, 2010; McCoy <i>et al.</i> , 2014

	<i>brasiliensis</i> , <i>O. onchengi</i> , <i>O. volvulus</i> , <i>W. bancrofti</i>					
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<sup>a</sup>The *flp*-coding genes *flp-29* and *flp-30* were recently suggested to represent orthologues of *C. elegans flp-28* and *flp-2*, respectively, and have been accordingly included in this table (McCoy *et al.*, 2014). <sup>b</sup>Species: *Ascaris suum*, *Ancylostoma caninum*, *Ancylostoma ceylanicum*, *Brugia malayi*, *Bursaphelenchus xylophilus*, *Caenorhabditis elegans*, *Caenorhabditis vulgaris*, *Dirofilaria immitis*, *Globodera pallida*, *Globodera rostochiensis*, *Haemonchus concortus*, *Heterodera glycines*, *Heterodera schachtii*, *Loa loa*, *Meloidogyne arenaria*, *Meloidogyne incognita*, *Meloidogyne javanica*, *Meloidogyne hapla*, *Meloidogyne paranaensis*, *Necator americanus*, *Nippostrongylus braziliensis*, *Onchocerca ochengi*, *Onchocerca volvulus*, *Ostertagia ostertagi*, *Panagrellus redivivus*, *Parastrongyloides trichosuri*, *Pratylenchus penetrans*, *Pristionchus pacificus*, *Radolphus similis*, *Strongyloides ratti*, *Strongyloides stercoralis*, *Teladorsagia circumcincta*, *Trichinella spiralis*, *Trichuris muris*, *Wuchereria bancrofti*, *Xiphinema index*. <sup>c</sup>Sequences that start with a hyphen have variable N-terminal extensions. <sup>d</sup>Peptides indicated in bold have been isolated from *C. elegans*. Peptides indicated with an asterisks are non-FLPs encoded by the indicated *flp* gene. The copy number of peptides encoded by the gene is indicated between brackets. <sup>e</sup>Expression patterns were adapted from (Li and Kim, 2010; Etchberger *et al.*, 2007) and Wormbase ([www.wormbase.org](http://www.wormbase.org)). <sup>f</sup>The approximate EC<sub>50</sub> range for receptor activation is indicated between brackets and includes receptor activation by all peptides encoded by this precursor. Values indicated in italic are activity threshold values as EC<sub>50</sub> values could not be calculated. <sup>g</sup>Values represent alteration of current in response to neuropeptide application in *Xenopus* assay.



Figure 1

